

In the claims

1.-20. (cancelled)

21. (new) A method comprising:

inputting a first transaction into a multiple-stage pipeline to convert the first transaction into a set of concurrently performable actions to process the first transaction;

after inputting the first transaction into the multiple-stage pipeline, and while converting the first transaction to the set of concurrently performable actions using the multiple-stage pipeline,

in response to determining, within the multiple-stage pipeline, that the first transaction requires a first memory line that is not currently cached in a cache,

temporarily storing the first memory line within a data transfer buffer to which the multiple-stage pipeline is directly communicatively connected;

in response to determining, within the multiple-stage pipeline, that a second memory line currently cached in the cache has to be evicted to make room for the first memory line, the first memory line different than the second memory line,

storing eviction data within the data transfer buffer, the eviction data regarding the second memory line currently cached in the cache;

spawning an eviction transaction regarding the second memory line, the eviction transaction different than the first transaction;

after the first transaction has been converted to the set of concurrently performable actions using the multiple-stage pipeline,

performing the set of concurrently performable actions utilizing the first memory line as temporarily stored within the data transfer buffer;

placing the second memory line in an eviction queue, the eviction queue different than the data transfer buffer; and,

after the second memory line has been placed in the eviction queue, inputting the eviction transaction into the multiple-stage pipeline to process eviction of the second memory line.